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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.: 10/820,259 Confirmation No.: 7506
Applicant(s): Mott et al.
Filed: 4/7/2004
Art Unit: 1732
Examiner: Ortiz, Angela Y.
Title: Integrated Flange Seal Electrical Connection
Attorney Docket No.: 003C.0004.U2 (US)
Customer No.: 29,683

Commissioner For Patents
P.O. Box 1450
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Reply Brief

Sir:

This is a reply brief to the Examiner's Answer mailed 02/01/2006 in regard to the above-identified patent application.

The examiner stated that Onoda does not show a series of ribs looping around the body. However, the examiner then states that a skilled artisan would have been well motivated to form the ribs provided in any convention design, particularly in view of Bickford, which teaches a threaded surface.

Bickford et al. has threaded surface 28. However, this is for screwing the insulating body 14 into the bulkhead 26. There is no disclosure or suggestion of **overmolding** a fuel flange on the threaded surface 28. Overmolding a member onto the screw threads 28 would defeat the purpose of the screw threads; to allow the body 14 to be screwed into the threads 30 of the

bulkhead 26 (see Fig. 3). Thus, it would not be obvious for a person skilled in the art to use screw threads 28 for forming a tortuous path with an overmolded fuel flange.

Applicants' attorney admits that it would be obvious to provide metal terminals 4,5 of Onoda with ribs in view of the ribs 22 of the contacts 12 in Bickford et al. However, metal terminals 4,5 of Onoda are shown as substantially flat plate-type members that are bent into shape. It does not appear obvious to provide the flat plate-type terminal members 4,5 of Onoda with ribs as a series of loops as the examiner has stated. In any event, the claims of the present patent application do not claim that the ribs of the electrical conductor are looped shaped.

The examiner states that threaded surface 28 of Bickford et al. helps to securely engage with a second surface. This is correct, but it's a threaded engagement. It is not an overmolded engagement. The examiner states that to shape the ribs of the primary molded body 6 of Onoda in any conventional form is well within the level of ordinary skill in the art and a conventional configuration as demonstrated in the Bickford reference. However, Bickford et al. does not disclose or suggest a method of forming a connector body with a series of ribs looping around an exterior of the connector body which is intended to have another member molded over those ribs. The fact is, nowhere in the cited art is there a disclosure or suggestion to shape the rib 8a of the primary molded body 6 of Onoda as a series of ribs looping around an exterior of the connector body. The rib 8a of the primary molded body 6 of Onoda is not intended to be screwed into anything; such as the

screw threads 28 of Bickford et al. The examiner has been using the applicants' disclosure as a template for attempting to combine the teaching of Bickford et al. with Onoda merely stating that it is well within the level of ordinary skill in the art to do so. **However, the art does not suggest any such combination.**

Again, claim 18 claims jacketing the electrical conductor with an electrical insulating material to form a connector body, wherein the connector body comprises a plurality of ribs comprising **a substantially uniform series of ribs looping around an exterior of the connector body**; and molding the fuel flange around the connector body for forming a second tortuous path, the second plurality of ribs defining the second tortuous path for impeding passage of hydrocarbon based fuel components between said connector body and said fuel flange.

Claim 25 claims molding a pre-mold housing onto a plurality of electrical conductors; and overmolding a flange member onto the pre-mold electrical connector, wherein the pre-mold housing comprises a series of **circumferential ribs** on an exterior side which form a second tortuous joint between the flange member and the pre-mold electrical connector.

There is no disclosure or suggestion in the cited art that:

- making rib 8a of Onoda a substantially uniform series of ribs looping around an exterior of primary molded body 6, or
- making rib 8a of Onoda a series of circumferential ribs on an exterior side of the primary molded body 6

was well within the level of ordinary skill in the art as suggested by Bickford et al. having screw threads 28 for screwing the connector of Bickford et al. into another member. The suggestion to combine the references as the examiner has stated does not exist without reading applicants' patent application.

In regard to claims 21 and 22, the examiner now states that the features of these claims are well known in the art. Applicants' attorney hereby challenges the examiner's "Official Notice". In accordance with MPEP §2144.03 the examiner is requested to cite a reference in support of her position.

In regard to claims 30-32, the examiner states that it would be obvious to include any conventional material, including material which remains uncured in the presence of air as claimed, for effecting a seal as desired. This is incorrect. Bickford et al. at column 4, lines 5-35 does not disclose or suggest impregnating the pre-mold housing with a sealing material (claim 30) or impregnating before the flange member is overmolded onto the pre-mold electrical connector (claim 31) or use of a material which remains substantially uncured in the presence of air (claim 32). See Claim 10 of the patent which resulted from the parent patent application (now U.S. 6,821,162).

Respectfully submitted,

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